

ABSTRACT OF THE DISCLOSURE

A system used to detect and assay genes by using a nucleic-acid probe substrate is disclosed, which can be used in highly general-purpose genetic chips
5 usable for various purposes, and has a temperature control means enabling control of temperature of the whole genetic chip in a high reproducibility and uniformity, and further even satisfies low-cost performance. A method for detecting and assaying
10 gene nucleic acids by using such a system is also disclosed. A heat-conductive material made up using a material having good thermal conductivity, having a shape having general-purpose properties, is used as the temperature control means, and is disposed in
15 such a form that it covers substantially the whole substrate face or stands in contact therewith, on the back of the substrate, or on the side facing the surface to which the detecting single-stranded nucleic acid fragments have been immobilized. This
20 makes it possible to improve the diffusion of heat in the in-plane direction of the whole substrate face. In addition, heat is given and received through such a heat-conductive material.